What is claimed is:

1.   A display device, comprising:

an array substrate having display elements and output units configured to output binary image pickup data;

an image processing unit configured to have a bidirectional bus for a CPU; and

an LCDC which has a bidirectional bus for said CPU.

2.   The display device according to claim 1, wherein said LCDC has a receiving unit configured to receive the output of an image pickup unit provided separate from said display device.

3.   A display device, comprising:

an array substrate having display elements and output units configured to output binary image pickup data; and

an image processing unit configured to have a bidirectional bus for a CPU and a bidirectional bus for an LCDC.

4.   The display device according to claim 3, wherein said LCDC has a receiving unit configured to receive the output of an image pickup unit provided separate from said display device.

5.   A display device, comprising:

display devices in pixels formed in vicinity of intersections of signal lines and scanning lines disposed in length and breadth;

image pickup units, at least one of said image pickup units being provided corresponding to each pixel, and each conducting image pickup at a prescribed range;

binary data storages which store binary data corresponding to results of image picked up by said image pickup unit; and

an array substrate which outputs the binary data in

multiple pixels that do not neighbor to each other in at least one direction of length or breadth direction.

6.   A display device, comprising:

a pixel array unit having display elements formed in vicinity of intersections of signal lines and scanning lines arranged in length and breadth, image pickup units and an output unit which outputs binary data corresponding to image picked up by said image pickup unit;

a image pickup device provided separate from said image pickup unit;

a first image processing unit configured to generate multiple gradation data based on multiple binary data picked up by said image pickup units based on multiple image pickup conditions; and

a second image processing unit configured to receive either the image pickup data picked up by said image pickup device or the multiple gradation data generated by said first image processing unit, to conduct a prescribed image processing.

7.   The display device according to claim 6, wherein said second image processing unit conducts at least one of gradation correction, color correction, defective pixel correction, edge correction and noise correction.

8.   The display device according to claim 6, wherein said pixel array unit is formed on an insulation substrate using TFTs (Thin Film Transistors); and

said first image processing unit is a semiconductor chip.

9.   The display device according to claim 8, further comprising a display controller IC which embeds said first image processing unit and supplies digital pixel data for said pixel array unit to said pixel array unit.

10. The display device according to claim 6, wherein said image pickup unit arranged to a direction that the signal lines align is disposed in zigzag form for each pixel.

11. The display device according to claim 9, further comprising a virtual image pickup data detector configured to calculate central image pickup data enclosed by surrounding four image pickup units, based on the image pickup data of the four image pickup data.

12. The display device according to claim 11, wherein said virtual image pickup detector averages the four image pickup data, to calculate the central image data.

13. The display device according to claim 11, further comprising a temporary storage capable of storing image pickup data of said image pickup unit for three horizontal lines,

wherein while said first image processing unit is transmitting the image pickup data stored in said temporary storage to said second image processing unit, said virtual image pickup data detector calculates the central image pickup data, and transfers the calculation result to said temporary storage.

14. A display device, comprising:

display elements in pixels formed in vicinity of intersections of signal lines and scanning lines disposed in length and breadth;

image pickup units, at least one of said image pickup units being provided corresponding to each pixel, and each conducting image pickup at a prescribed range;

binary data storages which store binary data corresponding to results of image picked up by said image pickup unit, and

an averaging gradation estimation unit configured to estimate an averaging gradation of whole display screen based on the binary data of the pixels connected to a portion of the scanning lines which do not neighbor to each other.

15.   The display device according to claim 14, wherein said averaging gradation estimation unit estimates the averaging gradation of the whole display screen based on the results of the image picked up by said image pickup unit corresponding to a portion of the signal lines which do not neighbor to each other.

16.   The display device according to claim 14, wherein said averaging gradation estimation unit estimates the averaging gradation of the whole display screen based on the binary data of the pixels connected to the scanning lines disposed for every m pieces (m is an integer not less than 2) and the signal lines disposed for every n pieces (n is an integer not less than 2).

17.   The display device according to claim 14, further comprising;
        a signal processing output circuit which converts the binary data for multiple pixels into serial data and outputs the serial data; and
        an output determination unit configured to determine whether or not to output the image pickup data of the remaining image pickup unit from said signal processing output circuit, based on the estimation result of said averaging gradation estimation unit.

18.   The display device according to claim 17, wherein said image pickup unit newly conducts image pickup while changing image pickup conditions when determined that said output determination unit does not output the image pickup data of

said image pickup unit.

19.   The display device according to claim 14, further comprising:

an insulation substrate on which said display elements, said image pickup units and said binary data storages are formed; and

a backlight device capable of alternately illuminating lights of white, green and blue, said backlight device being disposed on back face,

wherein said averaging gradation estimation unit estimates averaging gradation based on the binary data picked up by said image pickup unit with respect to illumination colors of said backlight device.

20.   A display device, comprising:

display devices in pixels formed in vicinity of intersections of signal lines and scanning lines disposed in length and breadth;

image pickup units, at least one of said image pickup units being provided corresponding to each pixel, and each conducting image pickup at a prescribed range;

binary data storages which store binary data corresponding to results of image picked up by said image pickup unit;

a multiple gradation data generator which generates multiple gradation data with first, second third colors based on the binary data with the first, second and third colors picked up by said image pickup unit; and

a color composition unit configured to generate image pickup data with a fourth color based on the multiple gradation data with the first, second and third colors.

21.   The display device according to claim 20, wherein said first, second and third colors are colors except red color, and

the fourth color is a red.

22.   The display device according to claim 20, wherein said color composition unit generates the image pickup data with red, green and blue colors components based on the multiple gradation data with the first, second and third colors.

23.   The display device according to claim 20, wherein the first color is white, the second color is green and said third color is blue, and

said color composition unit calculates the multiple gradation data with red color based on the multiple gradation data with white, green and blue.

24.   The display device according to claim 20, further comprising a backlight device capable of alternately illuminating the lights with the first, second and third colors, said backlight device being disposed on back face of an insulation substrate on which said display elements and said image pickup units are provided,

wherein said image pickup unit repeatedly conducts image pickup with respect to the first, second and third colors of said backlight device.

25.   The display device according to claim 20,

wherein said image pickup unit repeatedly picks up the image on multiple image pickup conditions with respect to the first, second and third colors of said backlight device; and

said image pickup unit repeatedly picks up image with respect to the cases where illumination color of said backlight are the first, second and third colors.

26.   The display device according to claim 20, wherein each pixel is substantially square shape.

27. The display device according to claim 20, further comprising an averaging gradation estimation unit configured to estimate the averaging gradation of the whole display screen based on the binary data of the pixel data connected to a portion of the scanning lines which do not neighbor to each other and a portion of the signal lines which do not neighbor to each other.

28. The display device according to claim 20, further comprising:

a signal processing output circuit which converts the binary data for multiple pixels into serial data; and

an output determination unit configured to determine whether or not to output the image pickup data of the remaining image pickup unit from said signal processing output circuit based on the estimation result of said averaging gradation estimation unit.